

Work Order ID 84117

84117

Page 1

Item ID: D4617-041

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Emergency Escape Ladder

Stop

NS2

Start Date: 03/05/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 17/05/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: MLT

Date: 12/05/03

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D4617

A

100

0.00

100

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

BEND RAIL AS PER DWG AND TO FIT PROFIL OF WELDING JIG DT9803
(ON LENGTH OF TUBE, 20 FEET MAKES 2 RAILL)

①

12-5-14

110

Weld per dwg A/R 4130 rod Batch: 118875 0.00

110

Large Fab

Memo

0.00

Large Fab

1- CUT STEPS AS PER DWG AND PREP FOR WELDING

2- CUT RAIL

3- INSTALL PARTS ON WELDING JIG DT9803 AND WELD AS PER DWG

②

12-5-14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Page 2

[illegible]

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Work Order ID 84117

84117

Page 3

May-03-12 11:25:59 AM

Item ID: D4617-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Emergency Escape Ladder
 Start Date: 03/05/2012 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 17/05/2012 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 *150* Powdercoat Powder Coating M113645	Fire Red(Ref:4.3.5.10) per QSI005 4.3 Memo START TIME: 7:40 OVEN TEMPERATURE: 320°F FINISH TIME: 8:10	0.00				IX	Ø		M-L 12/05/16
160 *160* QC Quality Control	QC3- Inspect Part Finish Memo	0.00							1 Ø BL 12-5-16
170 *170* Small Fab Small Fab	 Memo 1- Assemble clamps, clamps cover and tube caps to ladder as per dwg 2- Install decals as per dwg	0.00				①	Ø		FF 12-05-16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 84117

84117

Page 4

May-03-12 11:25:59 AM

Item ID: D4617-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Emergency Escape Ladder
 Start Date: 03/05/2012 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 17/05/2012 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 *180* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00		51710514		(41)			
190 *190* Packaging Packaging	 Memo	0.00 0.00		RR 84115 sp				12/15/17	
200 *200* Packaging Packaging	Identify as per dwg & Stock Location: Memo	0.00 0.00							

QC21

MCS 12/05/17

12-05-17

POSITIVE RECALL
 EFFECTIVE 12/05/17 AUTH
 RELEASED DATE

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May-03-12 11:26:03 AM

Page 1

Work Order ID: 84117

84117

Parent Item: D4617-041

D4617-041

Parent Item Name: Emergency Escape Ladder

Start Date: 03/05/2012

Required Date: 17/05/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 12.04.12 NEW ISSUE DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M4130NT0.750W.035		Purchased	No			100	f	76.8000	20	21.05263	19.18		
-------------------	--	-----------	----	--	--	-----	---	---------	----	----------	-------	--	--

M4130NT0 750W 035

4130 RD TUBE .750 X .035W

**

EL 12-5-14

Location

Loc Qty

Loc Code

MAT032

76.8

121250

76.8

19.18

4/18

M4130NT0.750W.035		Purchased	No			110	f	76.8000	5.06	5.326316			
-------------------	--	-----------	----	--	--	-----	---	---------	------	----------	--	--	--

~~***M4130NT0 750W 035***~~

4130 RD TUBE .750 X .035W

**

Location

Loc Qty

Loc Code

MAT032

76.8

121250

76.8

D4617-045		Manufactured	No			170	Each	0.0000	4	4			
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D4617-045

Clamp Assembly

B84119

**

4 ① FF 12-05-16

D4618-041		Manufactured	No			170	Each	10.0000	4	4			
-----------	--	--------------	----	--	--	-----	------	---------	---	---	--	--	--

D4618-041

Clamp Assembly Cover

B83121

**

4 ① FF 12-05-16

Location

Loc Qty

Loc Code

ST187

10

83121

10

D4621-1		Manufactured	No			170	Each	0.0000	2	2			
---------	--	--------------	----	--	--	-----	------	--------	---	---	--	--	--

D4621-1

Decal

B83682

**

2 ① FF 12-05-16

D4621-3		Manufactured	No			170	Each	0.0000	1	1			
---------	--	--------------	----	--	--	-----	------	--------	---	---	--	--	--

D4621-3

Decal

B83683

**

1 ① FF 12-05-16

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

May-03-12 11:26:03 AM

Page 2

Work Order ID: 84117

84117

Parent Item: D4617-041

D4617-041

Parent Item Name: Emergency Escape Ladder

Start Date: 03/05/2012

Required Date: 17/05/2012

Start Qty: 1.00

Required Qty: 1.00

D4625-1

Manufactured No

170

Each

100.0000

4

4

D4625-1

**

Tube Cap

① ~~05~~ 12-05-10

Location

Loc Qty

Loc Code

st139h

100

83122

100

4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

ITEM	QTY	P/N	DESCRIPTION
	X	D4617-041	EMERGENCY ESCAPE LADDER
1	1	D4617-043	LADDER WELDMENT
2	4	D4617-045	CLAMP ASSY
3	4	D4618-041	CLAMP ASSY COVER
4	2	D4621-1	DECAL
5	1	D4621-3	DECAL
6	4	D4625-1	TUBE CAP

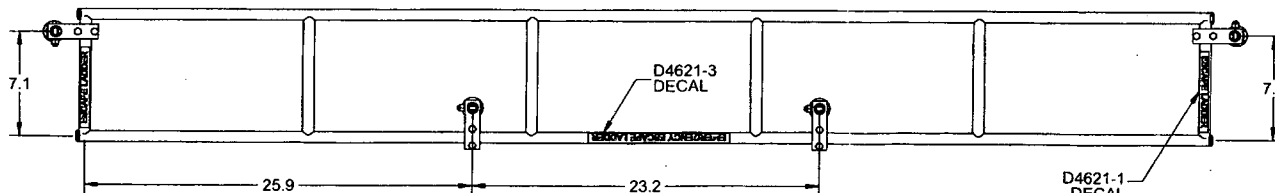
D4617-045
CLAMP ASSEMBLY
4 PL

D4618-041
CLAMP ASSY COVER
4 PL
(SHOWN REMOVED THIS LOCATION)

D4617-043
LADDER WELDMENT

D4625-1
TUBE CAP
4 PL

(CLAMP ASSY COVERS REMOVED FOR CLARITY)



D4617-041 EMERGENCY ESCAPE LADDER

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4617-041" AND BATCH NUMBER PER QSI044 6.6
- 7) WEIGHT: 6.46 lbs

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 84117 MJS
12/05/03

RELEASED
2012-04-10

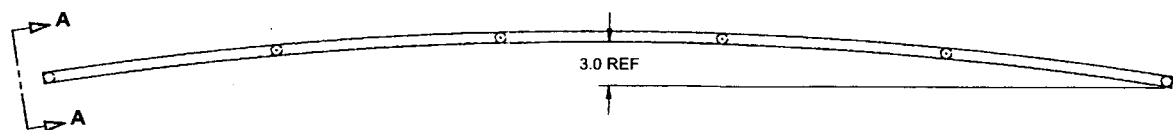
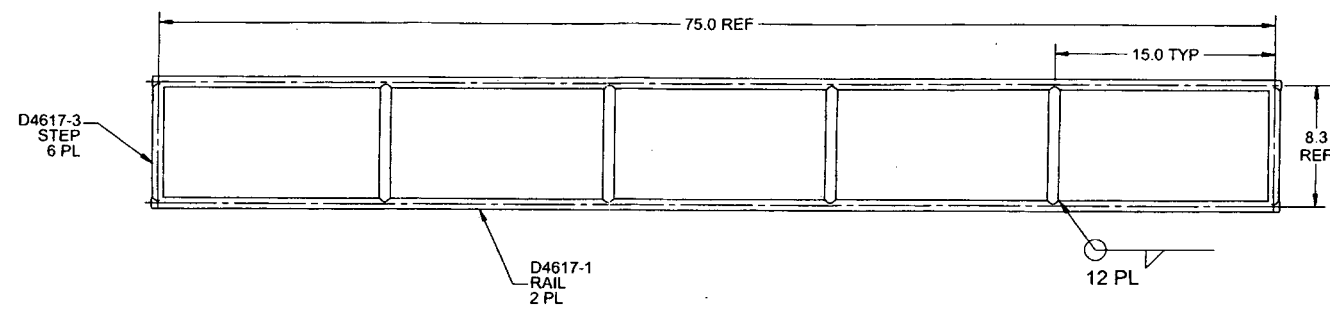
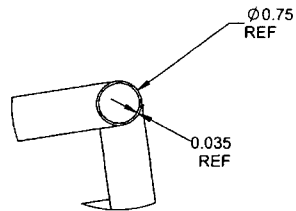
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REV.	DESCRIPTION	BY	DATE
DESIGN	RP		
DRAWN	RP		
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MFG. APPR.	AD		
APPROVED	AD		
DE APPR.	AD		
DATE	12.04.02		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D4617** REV. A
SHEET 1 OF 5
TITLE **EMERGENCY ESCAPE LADDER** SCALE NTS

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D4617-043 LADDER WELDMENT

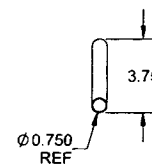
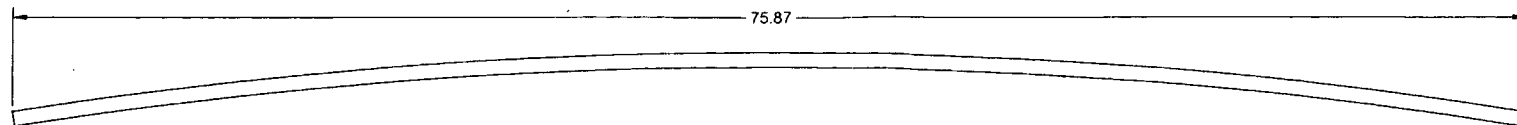
RELEASED
2012-04-10

NOTES:

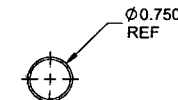
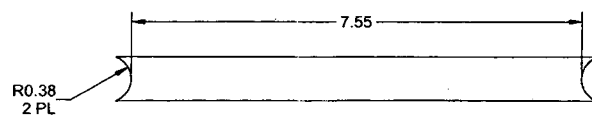
- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT FIRE RED (4.3.5.10) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER DART QSI044 6.6
- 7) WEIGHT: 4.5 lbs
- 8) WELDING: PER DART QSI004

DESIGN	RP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RP		
CHECKED	AR	DRAWING NO. D4617	REV. A
MFG. APPR.	SE		SHEET 2 OF 5
APPROVED	MP	TITLE	SCALE
DE APPR.		EMERGENCY ESCAPE LADDER	NTS
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84117



D4617-1 RAIL



D4617-3 STEP

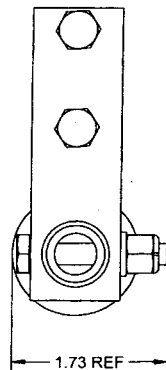
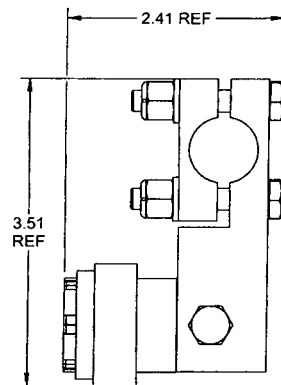
RELEASED
2012-04-18

NOTES:

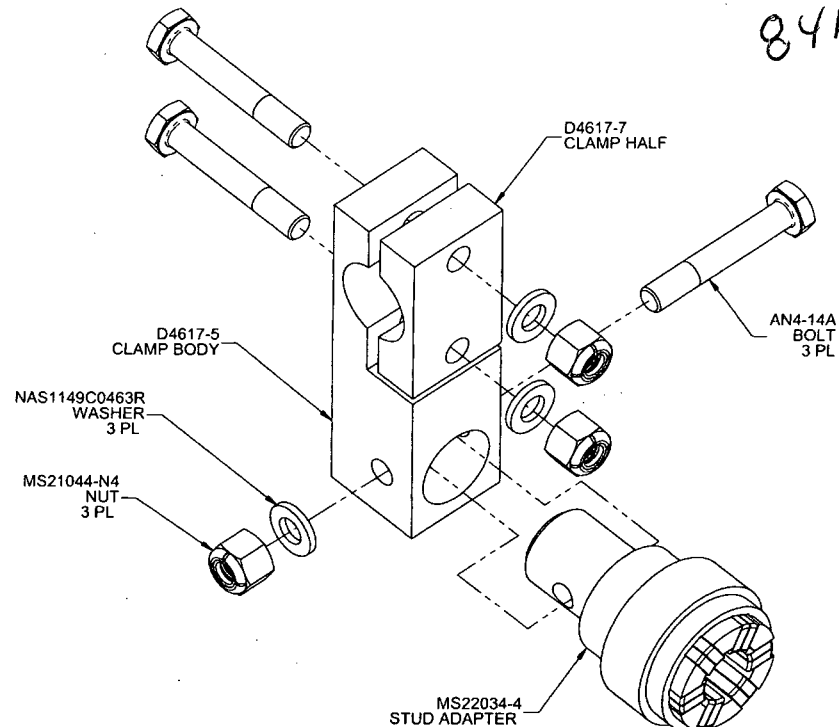
- 1) MATERIAL: AISI 4130N STEEL TUBING PER MIL-T6736
OR AMS6371, 6360, 6361, 6362, 6373, 6374
REF DART SPEC M4130NT0.750W.035
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER DART QSI044 6.6
- 7) WEIGHT: D4617-1 1.7lbs
D4617-3 0.17lbs

DESIGN	RP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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CHECKED	A.P.	DRAWING NO. D4617	REV. A
MFG. APPR.		SHEET 3 OF 5	
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DE APPR.		EMERGENCY ESCAPE LADDER	NTS
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ITEM	QTY	P/N	DESCRIPTION
	X	D4617-045	CLAMP ASSEMBLY
1	1	D4617-5	CLAMP BODY
2	1	D4617-7	CLAMP HALF
3	3	AN4-14A	BOLT
4	3	MS21044-N4	NUT
5	1	MS22034-4	STUD ADAPTER
6	3	NAS1149C0463R	WASHER

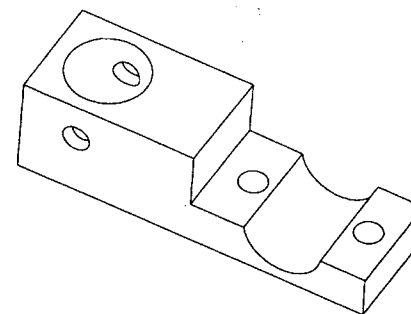
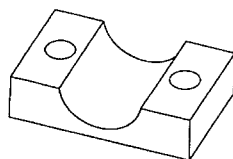


D4617-045 CLAMP ASSY

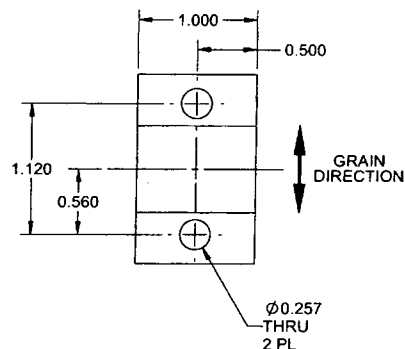
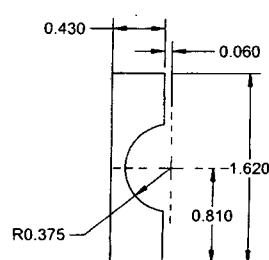


- NOTES:
 1) MATERIAL: N/A
 2) FINISH: N/A
 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 6) IDENTIFICATION: PER DART QSI044 6.6
 7) WEIGHT: 0.5 lbs

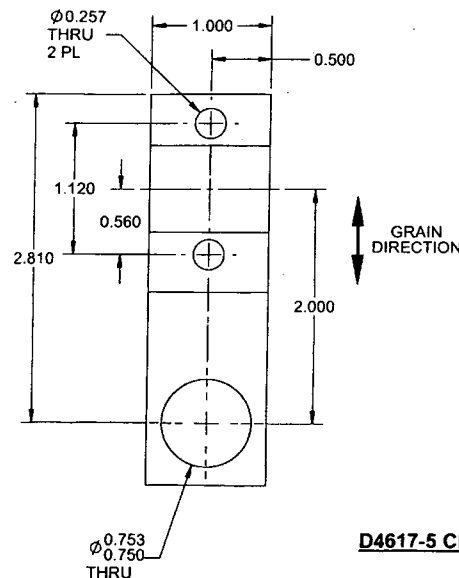
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DRAWN	RP		
CHECKED	D.P.	DRAWING NO. D4617	REV. A
MFG. APPR.	ES	TITLE EMERGENCY ESCAPE LADDER	SHEET 4 OF 5
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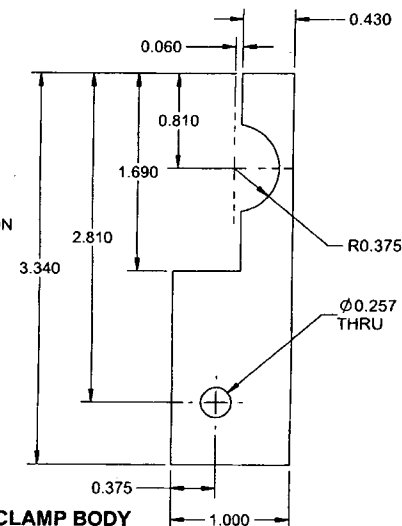
84117



D4617-7 CLAMP HALF



D4617-5 CLAMP BODY



NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR
AMS 4117/4128/4115/4116 OR QQ-A-200/8
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER DART QSI 044 6.6 OR 6.7
- 7) WEIGHT: D4617-5 0.17 lbs
D4617-7 0.05 lbs
- 8) POSSIBLE SUPPLIER: D4617-5: EAGLE P/N 212-110-06
D4617-7: EAGLE P/N 212-110-07

RELEASED
2012-04-10

DESIGN	RP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RP		
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4617	SHEET 5 OF 5
APPROVED		TITLE	SCALE
DE APPR.		EMERGENCY ESCAPE LADDER	NTS
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Under Review Notification

Raised By: R.Pilon
 Date: 12.5.14

Product #: D412-707
 Product Name: Emergency Escape Ladder

Drawing/Kit Number	Drawing/Kit Description	Quantity on Hand (Stock)	Quantity on Order (Production)	Quantity Allocated (Customer Order)	HOLD SHIPMENT	Red Tag/Quarantine Stock	Advise customers	Stop Production	Re-Work Stock	IPP Under Review	Blue File Under Review	ECN #	Instructions
D4617	Emergency Escape Ladder											12-575	

Description of issue:

Distance between top and bottom rung not adequately dimensioned and toleranced for consistent, proper fit to aircraft.

Distribution:

General Manager
 Production Manager
 Director Quality Assurance
 Design Manager
 Chief Engineer

Production Engineering Coordinators
 Quality Assurance Coordinator
 Quality Control Coordinator
 Order Processing
 Customer Technical Support

Engineering Project Managers
 Engineering Clerk
 Marketing